A NEW SPECIES OF *BULBOSTYLIS* (CYPERACEAE) FROM TROPICAL AMERICA

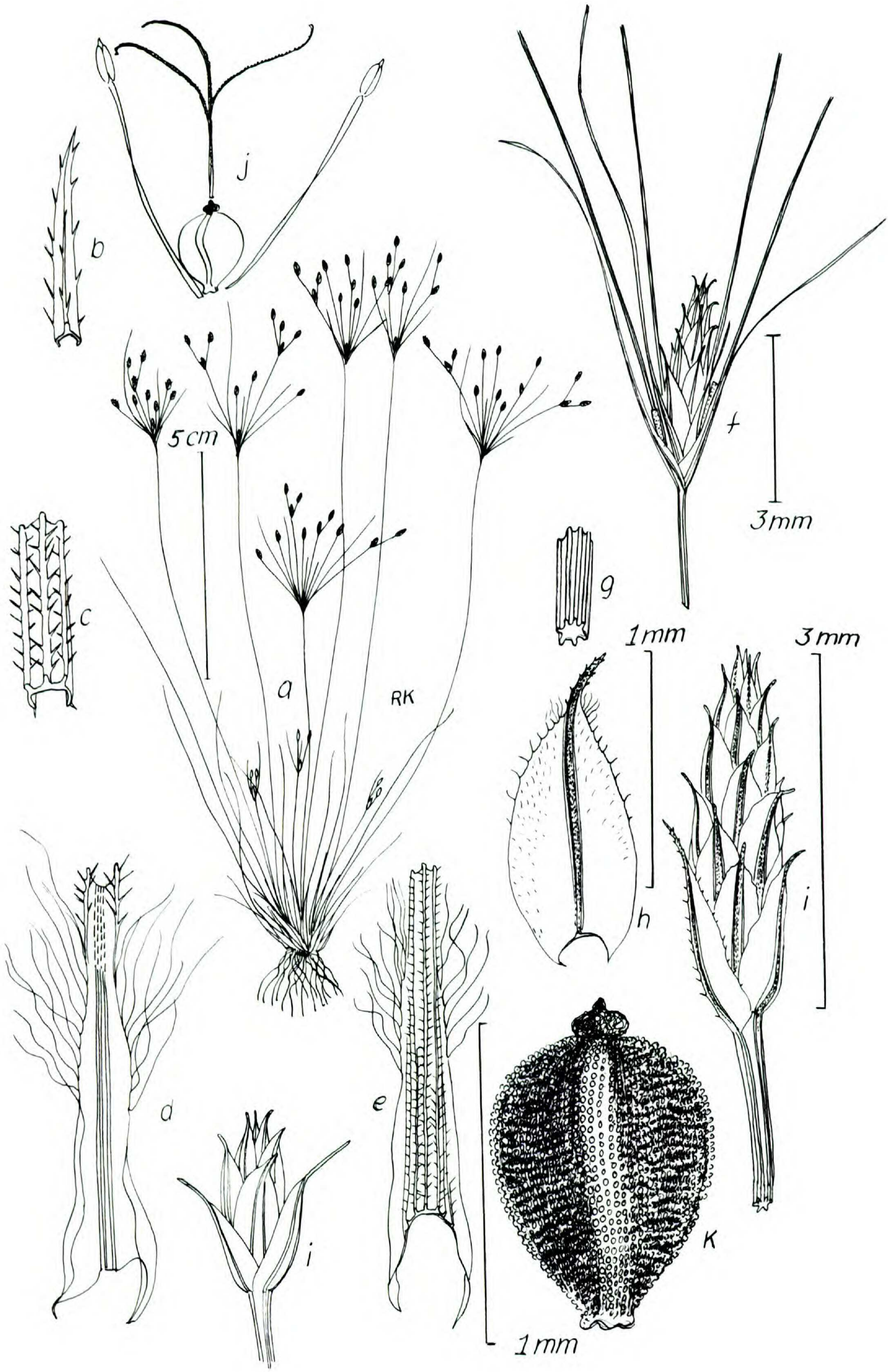
Bulbostylis, in the sense employed here, includes ca. 100 species centering in the tropics and subtropics of both hemispheres, with best representation in Africa and South America. It is usually placed in the tribe Scirpeae and is taxonomically (some state inextricably) related both to *Abildgaardia* and *Fimbristylis*. It is distinguishable from both by the sheaths which bear a sparse to dense beard of long, firm, often bristly hairs at the orifice and by the achenes which are surmounted by a persistent tubercle formed from the style base. Many species have weedy tendencies, are heliophytes, and thus grow abundantly in open areas that are artificially or naturally disturbed, in soils that are typically acid, sandy, azonal, and seasonally moist or wet. Thus they are much a part of vegetation of savanna, acid rock outcrops, natural or artificial clearings, and fluctuating, sandy-silty shores. Since such habitats are common in many areas of Amazonia, *Bulbostylis* species are an important component of the herbaceous vegetation. One species, frequently collected in the last decade along banks and bars of major streams in Amazonian Brazil, Colombia, and Venezuela, represents a new one that we describe here.

Bulbostylis fluviatilis Kral & Davidse, sp. nov. TYPE: Venezuela. Amazonas: Dpto. Río Negro, south side of hamlet of Santa Lucia, sandy recently cleared area for heliport, by Río Negro, common, 25 Nov. 1984, *R. Kral 71973* (holotype, VEN; isotypes, F, FSU, GH, ISC, MICH, MO, NY, P, U, US, VEN, VDB). Figure 1.

Bulbostylis tenuifolia (Rudge) Macbride affine a quo glumis mucronibus excurrentibus et antheris 2, 0.2–0.3 mm longis differt.

Annual, densely cespitose, 5–30 cm high. Roots capillary-fibrous. Leaves few per culm, polystichous, sub-basal, the lowest mostly bladeless or with blades shorter than the sheaths; principal leaves usually ⅓–½ as long as the scapes, sometimes as long, green; sheaths medially convex or keeled, multicostate, the costas strongly hirtellous, the broad, scarious, tan borders hirtellous, narrowing acutely to a long ciliate apex; blades 5–15 cm long, capillary, erect or spreading, proximally involute, 0.2–0.3 mm broad, pentacostate, distally triquetrous with costas scabridulous, the tips narrow but blunt. Scapes 0.2–0.3 mm thick, capillary, erect, sharply 5–7-costate, smooth or proximally sparsely scabridulous. Inflorescence a broad anthella 2–4 cm high, subumbellate, diffuse; involucral bracts 3–5, leaflike, subtending prophyllate rays, the longest bract equalling or slightly overtopping the anthella, the central spikelet sessile, 3–4 mm long, its lowest bracts also subtending primary rays; primary rays 0.5–3 cm long, erect to spreading, capillary and costate, 1–3-spicate; secondary rays 5–15 mm long. Spikelets mostly 3–6 mm long, lance-ovoid to lance-cylindric, pedicellate except for the central spikelet, acute; bracts 1.0–2.0 mm long, loosely spirally imbricate, lance-ovate, navicular, glabrous or hispidulous, 1-nerved, medially carinate, the midnerve green, the apex acute, villosulous, the margins sparsely ciliolate, the cusps and mucros 0.1–0.3 mm long, excurvate, scabridulous, the broad sides scarious, tan or red-brown, glabrous or hirtellous; lowest bract 2–3 mm long, usually sterile, strongly cuspidate, the cusp to 2 mm long; stamens mostly 2, the filaments flat, the anthers 0.2–0.3 mm long, basifixed, bilocular, laterally dehiscent, ellipsoidal, apiculate; style glabrous, branched medially to 3 slender, papillate stigmas. Achene 0.5–0.7 mm long, broadly obovoid-trigonous, the faces nearly plane, the adaxial face broadest, the surfaces finely papillose-lined longitudinally, transversely rugulose, whitish gray to brown; tubercle ca. 0.1 mm long, subglobose to oblate, apiculate, dark brown.

Paratypes. COLOMBIA. GUAINÍA: near Coitara, ca. 7 km S of San Fernando, 67°43′W, 3°55′N, *Davidse 16827* (COL, MO, VDB, VEN); Finca Buena Vista on the Río Negro, ca. 15 km S of San Felipe and San Carlos de Río Negro, 67°00′W, 1°42′N, *Liesner 8780* (COL, MO, NY, VDB, VEN). VENEZUELA. AMAZONAS: Dpto. Atabapo, Río Atacavi, 6–7 km de la desembocadura, 67°21′W, 3°14′N, *Guánchez 1372* (MO, TFAV). Dpto. Casiquiare, ca. 4 km up Casiquiare from Boca de Casiquiare on Río Negro, 67°4′W, 2°1′N, *Liesner 3927* (MO, VEN). Isla José, Alto Orinoco, *Vareschi 6768* (VEN). APURE: Dist. Pedro Camejo, 4 km NE of El Betun along the Río Capanaparo, 67°49′W, 6°58′N, *Davidse & González 13121* (MO, VEN); 27 km WSW of Paso de Cinaruco along the Río Cinaruco, 67°45′W, 6°31′N, *Davidse & González 12574* (MO, VEN); bank of Río Orinoco on Isla Poyatón, 67°05′W, 7°02′N, *Davidse & González 12216A* (MO, VEN); 9 km W of Paso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de Cinaruco along the Río Cinaruco, 67°35′W, 6°35′N, *Davidse & González 12495* (MO, VEN). BOLIVAR: Auyan-tepui, *Vareschi s.n.* (VEN). BRAZIL. MATO GROSSO: Rio Aripuaña, N of Humboldt Campus, 59°21′N, 10°12′S, *Prance et al. 18319* (MO, NY).

Among the tropical American species of *Bulbostylis, B. fluviatilis* seems most closely related to *B. tenuifolia* (Rudge) Macbride, and some of the cited paratypes have been distributed under that name. *Bulbostylis fluviatilis* is similar to *B. tenuifolia* in its general facies and annual life cycle but differs in having one-nerved glumes with an excurrent mucro and two stamens with anthers 0.2–0.3 mm long. *Bulbostylis tenuifolia* has three-nerved glumes with the midrib slightly or not at all excurrent and one stamen with anthers 0.4–0.5 mm long.

In superficial appearance *B. fluviatilis* also resembles some species of the *Trichelostylis* group of *Fimbristylis*. However, the prominent hairs along the mouth of the sheath and the distinctly tuberculate style base clearly indicate that this species belongs in *Bulbostylis*.

Bulbostylis fluviatilis grows along large rivers (hence the epithet) at elevations of 65–120 m. It grows primarily on the sand bars that become prominently exposed in these rivers during the dry season and on accumulations of sand on exposed granite outcrops along the rivers.

We believe that the cited collection of Vareschi from Auyan-tepui is not a reliable record and that it is probable that the wrong label was mounted with the plant. It is perhaps possible that the plant originated along one of the rivers at the base of Auyan-tepui, but it is extremely unlikely that it originated from the highly different habitats atop Auyan-tepui. The Brazilian collection differs from the others in having the leaves about as long as the inflorescences.

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FIGURE 1. *Bulbostylis fluviatilis* Kral & Davidse, drawn from the type collection, *Kral 71973.*—a. Habit sketch.—b. Leaf blade apex.—c. Mid-sector of the leaf blade, dorsal view.—d. Inner view of the leaf base.—e. Outer view of the leaf base.—f. Anthella base, showing the central sessile spikelet, involucre, and bases of primary rays.—g. Sector of the scape.—h. Fertile bract.—i. Two sorts of spikelets.—j. Floret.—k. Fruit.